NASA Procedural Requirements

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Subject: Aircraft Operations Management

Responsible Office: Aircraft Management Division

Chapter 1. Flight Operations, General Overview

1.1 Concept of Operations

1.1.1 NASA maintains an adequate number of aircraft/UASs to meet its Agency mission requirements, which include, but are not limited to, research, program support, and mission management.

1.1.2 Where practical, NASA seeks the use of aircraft that can support multiple mission requirements.

1.1.3 NASA uses its aircraft/UAS resources in an effective and efficient manner to conduct and support missions, approved/planned programs, and projects.

1.1.4 NASA maintains the level of airworthiness and aircraft/UAS operating standards that will ensure the safe operation of aircraft/UAS missions.

1.1.5 NASA controlled aircraft are subject to Federal Aviation Regulations with respect to the use of airspace, the control of air traffic, and aircraft registration. Aircraft on loan from the U.S. Armed Forces are not subject to civil registration. NASA aircraft pilots shall secure diplomatic clearance approval prior to entry into the airspace of a foreign country except for brief use of foreign airspace adjoining the United States as directed by air traffic control (ATC). [1]

1.1.6 For each Center operating aircraft/UASs or procuring aircraft/UAS services, the Center Director shall maintain a program-independent Flight Operations Office, the specific purpose of which will be to plan, organize, direct, and control the operations, maintenance, modification, safety, and support of all Center-assigned or -contracted aircraft. [2] The head of this office is responsible for all Center-assigned or -contracted aircraft. The head of this office shall be the senior line manager who is responsible for aviation activities at the Center. [3] The Center Director shall assign the head of the Flight Operations Office the authority and responsibility, and provide the resources necessary to manage and conduct safe, effective, and efficient operations in accordance with NASA directives, guidance, and other applicable Federal regulations. [4]

1.1.6.1 Prior to contract award, the head of the Flight Operations Office shall review and concur upon any Center contract or agreement that includes aviation operations. [5]

1.1.6.2 If a Center does not have a Flight Operations Department, the Center Director shall have another Center's Flight Operations Department review and concur on such contracts or agreements for them each time they procure aviation services. [6]

1.2 Assignment of Authority and Responsibility

1.2.1 The Assistant Administrator for the Office of Infrastructure and Administration shall designate aircraft

classifications and assign aircraft to the appropriate Center after consultation with the affected Mission Directorates and Center Directors. [7] Records created throughout flight operations management shall be maintained, managed, and disposed of by each Center's Flight Operations Office or designated office in accordance with NPR 1441.1, NASA Records Retention Schedules. [8]

1.2.2 Mission Directorate Associate Administrators shall:

1.2.2.1 Coordinate early with the Office of Infrastructure and Administration to establish program or project plans involving the requirement for acquisition or use of aircraft, including UASs. [9]

1.2.2.2 Comply with OMB Circulars A-76 and A-126 as they apply to the acquisition of aircraft/UASs and coordinate related documentation requirements with the Assistant Administrator for the Office of Infrastructure and Administration. [10]

1.2.2.3 Annually review aircraft mission and program requirements, use, and associated costs, and project those requirements and costs over five years in an annual report to the HQ AMD not later than September 30 of each year. [11]

1.2.2.4 Submit OMB Circular A-11, Exhibit 300, for aircraft and aircraft programs funded by their Directorate. These submissions shall be coordinated with the Office of Infrastructure and Administration and the Office of the Chief Financial Officer. [12]

1.2.3 Center Directors shall be responsible for:

1.2.3.1 The airworthiness and flight safety of assigned aircraft, including UASs. [13]

1.2.3.2 Coordination with the Office of Infrastructure and Administration in establishing program or project plans involving the requirement, assignment, and operation of aircraft/UASs. [14]

1.2.3.3 Annually reviewing aircraft mission and program requirements (for those programs controlled/funded by their respective Center), use, and associated costs, and projecting those requirements and costs over five years in an annual report to the HQ AMD not later than September 30 of each year. [15]

1.2.3.4 Ensuring compliance with the Financial Management Requirements (FMR) in the appropriate use and application of function codes that are used to account for, track, and report aircraft costs. [16]

1.2.3.5 Quarterly reporting of aircraft operations and costs to Headquarters, as stipulated in chapter 11 and specific MMA reporting requirements detailed in chapter 4 of this NPR. [17]

1.2.3.6 Ensuring compliance with 41 C.F.R. §102-33, 41 C.F.R. § 300/301, and OMB Circular A-126. [18]

1.2.3.7 The budget for personnel and travel in support of the IAOP. [19]

1.2.3.8 Approving aircraft charters or leases for periods of 30 days or less with seven days prior notice to the HQ AMD within the Office of Infrastructure and Administration. [20]

1.2.3.9 The technical assessment, cost evaluation, acquisition, use, and disposition of all aircraft/UASs under their control. [21] In addition, Center Directors are responsible for the acquisition of aircraft/UASs used solely as wind tunnel or other nonflyable test models. Center Directors shall coordinate and submit all aircraft acquisition and disposition proposals to the Assistant Administrator for the Office of Infrastructure and Administration for approval. [22] Center Directors shall report all acquisition and disposal actions to the HQ AMD to comply with Federal aircraft data reporting requirements. [23]

1.2.3.10 Ensuring that Center managers who acquire aircraft/UAS or aviation services coordinate those acquisitions with the Center's Flight Operations Department to ensure compliance with the NASA Aviation Safety Program and aircraft management policies. [24] If the Center does not have an aircraft management office, prior coordination shall be conducted with the HQ AMD.

1.2.4 Program/project managers shall:

1.2.4.1 Coordinate early with the Office of Infrastructure and Administration to establish program or project plans involving the requirement for acquisition or use of aircraft, including UASs. [25]

1.2.4.2 Prepare a Business Case Analysis (BCA) in accordance with OMB Circulars A-11, A-76, and A-126 prior to the acquisition of aircraft/UASs and gain approval of the BCA by the cognizant Mission Directorate Associate Administrator and the Assistant Administrator for the Office of Infrastructure and Administration. [26]

1.2.4.3 Annually review aircraft mission and program requirements, use, and associated costs and project those requirements and costs over five years to support the Mission Directorate's annual report to the HQ AMD not later than September 30 of each year. [27]

1.2.4.4 Submit OMB Circular A-11, Exhibit 300, as appropriate, for aircraft and aircraft programs funded by their Directorate. These submissions shall be coordinated with the appropriate Mission Directorate, the Office of

Infrastructure and Administration, and the Office of the Chief Financial Officer. [28]

1.2.5 Center Chief of Flight Operations

1.2.5.1 The Center Chief of Flight Operations is the senior line manager with authority over flight activities operated or controlled by the Center and is directly responsible to the Center Director for the safe and effective conduct of those activities. The Chief of Flight Operations shall hold the following qualifications for assignment to this position:

a. A minimum of ten years of relevant aviation-related experience, supervisory or managerial experience in aircraft operations similar to the primary aircraft type operated at the Center, and a high level of familiarity with the organization's aircraft operations. [29]

b. Current or previously held qualifications as a NASA Pilot in Command (PIC), a military rating as an Aircraft Commander, or a Federal Aviation Administration (FAA) Airline Transport Pilot (ATP) certificate. [30]

1.2.5.2 The Center Chief of Flight Operations is authorized to fly Center aircraft.

1.2.5.3 The Center Chief of Flight Operations shall perform the following duties:

a. Ensure the effective management of flight operations under that Center's cognizance, per NPD 7900. [31]

b. Authorize personnel to operate and maintain aircraft under NASA control. The Center Flight Operations Office has the final operational flight release authority for any NASA aircraft operating from or under the cognizance of that Center. [32]

c. Determine the number of aircraft types in which an individual crewmember may maintain qualification at any given time and annually review that determination. [33]

d. Recommend assignment of the Center Aviation Safety Officer (ASO), with the concurrence of the Center Chief of Safety and Mission Assurance, to the Center Director for approval. [34]

e. Fly as a crewmember or observer on all assigned aircraft, where practicable and as necessary, to observe performance of assigned flightcrews. [35]

1.2.6 Center Aviation Safety Officers

1.2.6.1 The ASO shall manage the Center's aviation safety program as described in chapter 6 of this NPR. [36] The following describes the responsibilities, authority, and minimum qualifications of the Center ASO:

1.2.6.2 The ASO shall be a civil servant assigned to the Flight Operations Department, serve as the Center's focal point for aviation safety, and act on behalf of the Center Director when discharging this responsibility. [37] The ASO will advise the Chief of Flight Operations regarding safety issues/concerns within the organization. Managers may use the advice of the ASO in formulating organizational decisions, but will not expect or rely upon the ASO to make managerial decisions.

1.2.6.3 If a safety concern has not been dealt with sufficiently by the Flight Operations organization, the ASO may take the concern directly to the Center Director. In addition, the ASO may take the concern to the Chief, Safety and Mission Assurance or the Assistant Administrator for the Office of Infrastructure and Administration.

1.2.6.4 The ASO will meet NASA PIC qualifications and the requirements in section 6.2.9.

1.2.7 Chief Pilot

1.2.7.1 To qualify for assignment, the Chief Pilot shall:

a. Hold and maintain qualification as a NASA PIC. [38]

b. Have at least three years experience within the past six years as PIC of an aircraft similar in category and class to at least one of the aircraft used in the types of operations being conducted at the Center. [39]

c. Demonstrate satisfactory supervisory and managerial capabilities. [40]

1.2.7.2 Specific duties will be defined at the respective NASA Center.

1.2.8 Chief of Maintenance

1.2.8.1 To qualify for assignment, the Chief of Maintenance shall:

a. Have had at least three years of experience within the past six years in aircraft maintenance in a similar-size operation maintaining aircraft similar to those used by the Center, with management experience such as supervisor or lead in aircraft maintenance. [41]

b. Have held an FAA Airframe and Power Plant (A&P) Certification or have held an equivalent military designation, or demonstrate an equivalent level of qualifications and expertise. [42]

1.2.8.2 Duties will be defined at NASA Centers.

1.2.9 Chief of Quality Assurance

1.2.9.1 To qualify for assignment, the Chief of Quality Assurance shall:

a. Hold a current FAA Inspection Authorization Certificate or have held an equivalent military designation, or demonstrate an equivalent level of qualifications and expertise. [43]

b. Maintain a level of inspection expertise and activity needed to meet FAA Inspection Authorization Certificate renewal requirements or the military equivalent. [44]

c. Have had at least three years of maintenance experience, within the last six years, one year of which must have been as a maintenance inspector. [45]

d. Have at least one year of experience in a supervisory capacity. [46]

1.2.9.2 Duties will be defined at NASA Centers.

1.2.10 The IAOP has the responsibility to:

1.2.10.1 Advise the Assistant Administrator for the Office of Infrastructure and Administration regarding operational, management, and safety policies for NASA aircraft.

1.2.10.2 Conduct periodic meetings with the HQ AMD to review policies and procedures related to aircraft/UAS operational matters affecting all Centers and to make recommendations to the AMD regarding policies, procedures, and guidelines that may be applicable to all Centers.

1.2.10.3 Conduct reviews of a special nature at the request of the Assistant Administrator for the Office of Infrastructure and Administration and periodic reviews of all aspects of flight operations at NASA Centers, including compliance with applicable Federal regulations and Headquarters and Center policies and procedures.

1.2.11 The HQ AMD has the responsibility to:

1.2.11.1 Coordinate the formulation of Agency-wide policies, procedures, and guidelines concerning aircraft/UAS operation and ensure their effective and efficient communication to Centers and appropriate Headquarters offices.

1.2.11.2 Advise and assist the Assistant Administrator for the Office of Infrastructure and Administration, Mission Directorates, and Center Directors concerning the acquisition/disposition process.

1.2.11.3 Advise the Assistant Administrator for the Office of Infrastructure and Administration regarding the establishment of policy for the use of NASA aircraft/UASs.

1.2.11.4 Coordinate the findings and recommendations of IAOP reviews dealing with institutional management issues with the appropriate institutional Associate Administrator.

1.2.11.5 Maintain liaison with other Government agencies and the private sector on matters pertaining to flight operations, maintenance, and management practices common to all Centers.

1.2.11.6 Provide coordination and other assistance in the assignment of IAOP teams as they review and evaluate the adequacy of Center organizations, facilities, and procedures for flight operations.

1.2.11.7 Provide inter-Center and interagency coordination for logistics support to Centers, as necessary.

1.2.11.8 Collect, collate, and report Agency aircraft data (e.g., Federal Aviation Interactive Reporting System [FAIRS] data) to other Federal agencies.

1.2.12 The Chief, Safety and Mission Assurance provides leadership, policy direction, functional oversight, assessment, standards, and coordination for safety and mission assurance affecting NASA aviation operations.

1.3 Classification of Aircraft Use

1.3.1 NASA's aircraft generally fall under three classifications: Research and Development (R&D), Program Support (PS), and MMA.

1.3.2 Research and Development. R&D aircraft provide the means for NASA's Mission Directorates to conduct research at various altitudes and atmospheric conditions. R&D aircraft are flown to advance aeronautics research, to expand human knowledge of Earth and space science, and to support the Vision for Space Exploration.

1.3.3 Program Support. PS aircraft enable the accomplishment of NASA program objectives. Such use includes, but is not limited to, astronaut training, safety chase, photo chase, cargo transport, flightcrew training, range surveillance, launch security, launch and landing weather reconnaissance, contingency support, and command and control.

1.3.4 Mission Management Aircraft. MMA provide a means of transportation for NASA personnel to meet

mission-required travel needs, as defined in OMB Circular A-126 and this NPR. Mission management flights may be classified as "Mission Required" only when failure to use a NASA MMA would have a clear, negative impact on a NASA operational mission, prevent timely response to an aircraft or spacecraft accident, or threaten the health and safety of NASA personnel, and only when such travel could not be conducted using commercial airlines, charter aircraft service, or ground transportation to fulfill that mission need. All passenger travel that can reasonably be performed using commercial airlines, charter aircraft service, or ground transportation to meet the mission need may not be designated as Mission Required.

1.4 Waivers

1.4.1 When deviations from this NPR are necessary, Center Directors or Associate Administrators shall submit requests for waivers to the Assistant Administrator for the Office of Infrastructure and Administration via HQ AMD. [47] Prior written approval from the Assistant Administrator for the Office of Infrastructure and Administration shall be obtained before implementing procedures that are less restrictive than those contained in this NPR. [48]

1.4.2 Only the Administrator or Assistant Administrator for Infrastructure and Administration, who is responsible for this NPR, or delegated authority, may waive requirements contained in this NPR.

1.4.3 A waiver may be approved only if it meets all of the following criteria:

a. It is not prohibited by Federal policy.

b. It would not present an undue risk to public health, safety, the environment, or personnel.

c. It is justified under the particular circumstances.

1.4.4 The waiver approval authority shall only approve waivers for a specific event, period, or duration and shall specify the boundaries of the requirement being waived. [49]

1.4.5 The waiver approval authority shall notify all who have current waivers against this NPR when this NPR is updated and request verification of continued validity. [50]

1.4.6 NASA officials who request waivers shall document the following in the request for waiver:

a. Identification of the directive and specific requirement(s) for which the waiver is requested.

b. Scope (e.g., site, facility, operation, or activity) and duration of the waiver request.

c. Justification for the waiver, including:

1. Purpose/rationale for requesting the waiver.

2. Whether application of the requirement in the particular circumstances would conflict with another requirement.

3. Whether application of the requirement in the particular circumstances would not achieve, or is not necessary to achieve, the underlying purpose of the requirement.

4. Any other pertinent data or information related to the waiver request (e.g., cost or schedule considerations).

5. Identification and justification of the acceptance of any additional risk that will be incurred if the waiver is granted.

6. A description of any special circumstances that warrant granting the waiver, including whether: (a) application of the requirement in the particular circumstances would not be justified by any safety and health reason; (b) the waiver would result in a health and safety improvement that compensates for any detriment that would result from granting the waiver; or (c) there exists any other material circumstances that were not considered when the requirement was adopted, for which it is in the public interest to grant a waiver.

7. A description of any alternative or mitigating action that will be taken to ensure adequate safety and health and protection of the public, the workers, and the environment for the period the waiver will be effective. [51]

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